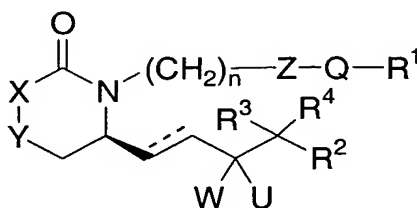


WHAT IS CLAIMED IS:

1. A compound having the structural formula I:



FORMULA I

or a pharmaceutically acceptable salt, enantiomer, diastereomer, prodrug or mixture thereof, wherein,

- 10 Q is $(CH_2)_m$, $(CH_2)_mC_{6-10}$ aryl, $(CH_2)_mC_{5-10}$ heterocyclyl, $(CH_2)_mC_{3-10}$ heterocycloalkyl, $(CH_2)_mC_{3-8}$ cycloalkyl, $C(halo)_2$ said cycloalkyl, heterocycloalkyl, aryl or heterocyclyl unsubstituted or substituted with 1-3 groups of R^a ;

- 15 X and Y independently represent CH_2 , O, NR^9 or S, provided however, that X and Y are not O, NR^9 or S at the same time;

U represents H, C1-3 alkyl or is not present when W is =O;

- 20 W represents OH or =O, provided that U is not present when W is =O;

- R^1 represents $(CH_2)_p$ hydroxy, $(CH_2)_p$ CN, $(CH_2)_pCO_2R^{10}$, $(CH_2)_nSO_3R^6$, -
 $(CH_2)_pCF_2SO_2NH_2$, $-(CH_2)_pSO_2NH_2$, $-(CH_2)_pCONHSO_2R^2$,
 $-(CH_2)_pSO_2NHCOR^2$, $-(CH_2)_pPO(OH)_2$, $(CH_2)_pCONHPO_2R^6$,
 $(CH_2)_pCONHR^8$, $(CH_2)_pC_{1-4}$ alkoxy, $-(CH_2)_p$ cycloalkyl,
 25 $(CH_2)_p$ -hydroxymethylketone or $(CH_2)_n$ heterocyclyl, said heterocyclyl unsubstituted or substituted with 1 to 3 groups of R^a and optionally containing an acidic hydroxyl group;

R^2 independently represents C1-10 alkyl, $(CH_2)_mC_{6-10}$ aryl,

(CH₂)_mC₅₋₁₀heterocyclyl, (CH₂)_mC₃₋₁₀ heterocycloalkyl, (CH₂)_mC₃₋₈ cycloalkyl, O-C₁₋₁₀alkyl, O-C₆₋₁₀aryl, O-C₃₋₁₀cycloalkyl, O-C₃₋₁₀ heterocycloalkyl, O-C₃₋₁₀ heterocycloalkyl, provided that when R² is O-C₁₋₁₀alkyl, O-C₆₋₁₀aryl, O-C₃₋₁₀cycloalkyl, O-C₃₋₁₀ heterocycloalkyl, or O-C₃₋₁₀ heterocycloalkyl, R³ and R⁴ are not halogen, said alkyl, cycloalkyl,
 5 heterocycloalkyl, aryl or heterocyclyl unsubstituted or substituted with 1-3 groups of R^a;

R³ and R⁴ independently represents hydrogen, halogen, or C₁₋₆ alkyl, or R³ and R⁴ may be taken together to form a 3-7 membered carbon ring optionally interrupted with 1-2 heteroatoms chosen from O, S, SO, SO₂, and NR⁹;

10 R⁶ and R⁷ independently represents hydrogen, or C₁₋₄ alkyl;

R⁸ represents hydrogen, acyl, or sulfonyl;

15 R⁹ represents hydrogen, C₁₋₆ alkyl, said alkyl optionally substituted with 1-3 halogen, CN, OH, C₁₋₆ alkoxy, C₁₋₆ acyloxy or amino;

R¹⁰ represents hydrogen, C₁₋₁₀ alkyl, C₃₋₁₀ cycloalkyl, (CH₂)_pC₆₋₁₀ aryl, (CH₂)_pC₅₋₁₀ heterocyclyl, CR⁶R⁷OC(O)O C₃₋₁₀ cycloalkyl or CR⁶R⁷OC(O)O C₁₋₁₀ alkyl;

20 Z represents a triple bond, O, S, (C(R^b))₂_n, or Ch=CH;

R^b represents hydrogen, C₁₋₆ alkyl or halogen;

25 R^a represents C₁₋₆ alkoxy, C₁₋₆ alkyl, CF₃, nitro, amino, cyano, C₁₋₆ alkylamino, halogen, or R^a further represents for aryls and heterocyclyl, SC₁₋₆alkyl, SC₆₋₁₀aryl, SC₅₋₁₀heterocyclyl, CO₂R⁶, OC₆₋₁₀aryl, OC₅₋₁₀heterocyclyl, CH₂OC₁₋₆ alkyl, CH₂SC₁₋₆ alkyl, CH₂Oaryl, CH₂Saryl;

30 --- represents a double or single bond;

p represents 0-3;

n represents 0-4; and

m represents 0-8.

2. A compound in accordance with claim 1 wherein R^1 is $(CH_2)_pCN$,
 5 $(CH_2)_pCO_2R^{10}$, $-(CH_2)_pPO(OH)_2$, $(CH_2)_pCONHPO_2R^6$,
 $(CH_2)_pCONHR^8$, or $(CH_2)_n$ heterocyclyl, said heterocyclyl unsubstituted or substituted with 1 to 3 groups of R^a and all other variables are as originally described.
3. A compound in accordance with claim 2 wherein Z is a bond or S, Y is
 10 CH_2 and X is O, S or CH_2 .
4. A compound in accordance with claim 1 wherein R^1 is $(CH_2)_pCO_2R^{10}$,
 X and Y are CH_2 , Z is $(C(R^b)_2)_n$, Q is $(CH_2)_m$, R^3 and R^4 are halogen, and R^2 is $(CH_2)_mC_{6-10}$ aryl, said aryl unsubstituted or substituted with 1 to 3 groups of R^a .
 15
5. A compound in accordance with claim 2 wherein R^1 is $(CH_2)_mC_{5-10}$ heterocyclyl, U is H, or C_{1-3} alkyl, W is OH, Z is a bond or S, R^2 is $(CH_2)_mC_{6-10}$ aryl, said aryl unsubstituted or substituted with 1 to 3 groups of R^a , said heterocyclyl unsubstituted or substituted with 1 to 3 groups of R^a and all other variables are as originally described.
 20
6. A compound which is:
 - 7- $\{(2R)-2-[(1E,3R)-4,4$ -difluoro-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}heptanoic acid;
 - 7- $\{(4R)-4-[(1E,3R)-4,4$ -difluoro-3-hydroxy-4-phenylbut-1-enyl]-2-oxo-1,3-oxazinan-3-yl}heptanoic acid;
 - 25 7- $\{(4R)-4-[(1E,3R)-4,4$ -difluoro-3-hydroxy-4-phenylbut-1-enyl]-2-oxo-1,3-thiazinan-3-yl}heptanoic acid;
 - 7- $\{(2R)-2-[(3R)-4,4$ -difluoro-3-hydroxy-4-phenylbutyl]-6-oxopiperidin-1-yl}heptanoic acid;
 - 7- $\{(4S)-4-[(3R)-4,4$ -difluoro-3-hydroxy-4-phenylbutyl]-2-oxo-1,3-oxazinan-3-yl}heptanoic acid;
 - 30 7- $\{(4S)-4-[(3R)-4,4$ -difluoro-3-hydroxy-4-phenylbutyl]-2-oxo-1,3-thiazinan-3-yl}heptanoic acid;
 - 7- $\{(2R)-2-[(3R)-3$ -hydroxy-4-phenylbutyl]-6-oxopiperidin-1-yl}heptanoic acid;
 - 7- $\{(4S)-4-[(3R)-3$ -hydroxy-4-phenylbutyl]-2-oxo-1,3-oxazinan-3-yl}heptanoic acid;
 - 7- $\{(4S)-4-[(3R)-3$ -hydroxy-4-phenylbutyl]-2-oxo-1,3-thiazinan-3-yl}heptanoic acid;

- isopropyl 7-{(2*R*)-2-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}heptanoate;
 isopropyl 7-{(4*R*)-4-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-2-oxo-1,3-oxazinan-3-yl}heptanoate;
 5 isopropyl 7-{(4*R*)-4-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-2-oxo-1,3-thiazinan-3-yl}heptanoate;
 (6*R*)-6-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-1-[6-(2*H*-tetraazol-5-yl)hexyl]piperidin-2-one;
 (4*R*)-4-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-3-[6-(2*H*-tetraazol-5-yl)hexyl]-1,3-oxazinan-2-one;
 10 (4*R*)-4-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-3-[6-(2*H*-tetraazol-5-yl)hexyl]-1,3-thiazinan-2-one;
 (5*S*)-5-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-4-[6-(2*H*-tetraazol-5-yl)hexyl]morpholin-3-one;
 15 (6*S*)-6-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-1-[6-(2*H*-tetraazol-5-yl)hexyl]piperazin-2-one;
 (5*S*)-5-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-4-[6-(2*H*-tetraazol-5-yl)hexyl]thiomorpholin-3-one;
 5-(3-{(2*R*)-2-[(1*E*,3*S*)-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}propyl)thiophene-2-carboxylic acid;
 20 5-(3-{(4*R*)-4-[(1*E*,3*S*)-3-hydroxy-4-phenylbut-1-enyl]-2-oxo-1,3-oxazinan-3-yl}propyl)thiophene-2-carboxylic acid;
 5-(3-{(4*R*)-4-[(1*E*,3*S*)-3-hydroxy-4-phenylbut-1-enyl]-2-oxo-1,3-thiazinan-3-yl}propyl)thiophene-2-carboxylic acid;
 25 5-(3-{(2*R*)-2-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}propyl)thiophene-2-carboxylic acid;
 5-(3-{(4*R*)-4-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-2-oxo-1,3-oxazinan-3-yl}propyl)thiophene-2-carboxylic acid;
 5-(3-{(4*R*)-4-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-2-oxo-1,3-thiazinan-3-yl}propyl)thiophene-2-carboxylic acid;
 30 (6*R*)-6-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-1-{3-[5-(2*H*-tetraazol-5-yl)thien-2-yl]propyl}piperidin-2-one;
 (4*R*)-4-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-3-{3-[5-(2*H*-tetraazol-5-yl)thien-2-yl]propyl}-1,3-oxazinan-2-one;

- (4*R*)-4-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-3-{3-[5-(2*H*-tetraazol-5-yl)thien-2-yl]propyl}-1,3-thiazinan-2-one;
- (6*R*)-6-[(3*R*)-4,4-difluoro-3-hydroxy-4-phenylbutyl]-1-{3-[5-(2*H*-tetraazol-5-yl)thien-2-yl]propyl}piperidin-2-one;
- 5 (4*S*)-4-[(3*R*)-4,4-difluoro-3-hydroxy-4-phenylbutyl]-3-{3-[5-(2*H*-tetraazol-5-yl)thien-2-yl]propyl}-1,3-oxazinan-2-one;
- (4*S*)-4-[(3*R*)-4,4-difluoro-3-hydroxy-4-phenylbutyl]-3-{3-[5-(2*H*-tetraazol-5-yl)thien-2-yl]propyl}-1,3-thiazinan-2-one;
- isopropyl 5-(3-{(2*R*)-2-[(1*E*,3*S*)-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}propyl)thiophene-2-carboxylate;
- 10 isopropyl 5-(3-{(4*R*)-4-[(1*E*,3*S*)-3-hydroxy-4-phenylbut-1-enyl]-2-oxo-1,3-oxazinan-3-yl}propyl)thiophene-2-carboxylate;
- isopropyl 5-(3-{(4*R*)-4-[(1*E*,3*S*)-3-hydroxy-4-phenylbut-1-enyl]-2-oxo-1,3-thiazinan-3-yl}propyl)thiophene-2-carboxylate;
- 15 isopropyl 5-(3-{(2*R*)-2-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}propyl)thiophene-2-carboxylate;
- isopropyl 5-(3-{(4*R*)-4-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-2-oxo-1,3-oxazinan-3-yl}propyl)thiophene-2-carboxylate;
- isopropyl 5-(3-{(4*R*)-4-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-2-oxo-1,3-thiazinan-3-yl}propyl)thiophene-2-carboxylate;
- 20 (5*E*)-7-{(2*R*)-2-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}hept-5-enoic acid;
- (5*E*)-7-{(4*R*)-4-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-2-oxo-1,3-oxazinan-3-yl}hept-5-enoic acid;
- 25 (5*E*)-7-{(4*R*)-4-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-2-oxo-1,3-thiazinan-3-yl}hept-5-enoic acid;
- (5*E*)-7-{(2*R*)-2-[(3*R*)-4,4-difluoro-3-hydroxy-4-phenylbutyl]-6-oxopiperidin-1-yl}hept-5-enoic acid;
- (5*E*)-7-{(4*S*)-4-[(3*R*)-4,4-difluoro-3-hydroxy-4-phenylbutyl]-2-oxo-1,3-oxazinan-3-yl}hept-5-enoic acid;
- 30 (5*E*)-7-{(4*S*)-4-[(3*R*)-4,4-difluoro-3-hydroxy-4-phenylbutyl]-2-oxo-1,3-thiazinan-3-yl}hept-5-enoic acid;
- 2-(3-{(2*R*)-2-[(1*E*,3*S*)-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}propyl)-1,3-thiazole-5-carboxylic acid;

- 5-(3-{{(2R)-2-[(1E,3S)-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}propyl)-1,3-thiazole-2-carboxylic acid;
- 5-(3-{{(2R)-2-[(1E,3S)-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}propyl)-1,3-oxazole-2-carboxylic acid;
- 5 2-(3-{{(2R)-2-[(1E,3R)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}propyl)-1,3-oxazole-5-carboxylic acid;
- 5-(3-{{(2R)-2-[(1E,3R)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}propyl)-1H-imidazole-2-carboxylic acid;
- 2-(3-{{(2R)-2-[(1E,3R)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}propyl)-1H-imidazole-5-carboxylic acid;
- 10 2-(3-{{(2R)-2-[(1E,3S)-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}propyl)-1,3-oxazole-5-carboxylic acid;
- 5-(3-{{(2R)-2-[(1E,3S)-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}propyl)-1,2λ⁵,5λ⁵-oxadiazole-2-carboxylic acid;
- 15 5-(3-{{(2R)-2-[(1E,3S)-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}propyl)-4H-1,2,4-triazole-3-carboxylic acid;
- 5-((1E)-3-{{(2R)-2-[(1E,3R)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}prop-1-enyl)thiophene-2-carboxylic acid;
- 5-(3-{{(2R)-2-[(1E,3R)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}prop-1-ynyl)thiophene-2-carboxylic acid;
- 20 5-((1Z)-3-{{(2R)-2-[(1E,3R)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}prop-1-enyl)thiophene-2-carboxylic acid;
- (6R)-6-[(1E,3R)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-1-{{(2Z)-4-[(1H-tetraazol-5-ylmethyl)thio]but-2-enyl}piperidin-2-one};
- 25 [(4-{{(2R)-2-[(1E,3R)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}but-2-ynyl)thio]acetic acid;
- [((2Z)-4-{{(2R)-2-[(1E,3R)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}but-2-enyl)thio]acetic acid;
- [(4-{{(2R)-2-[(1E,3R)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}butyl)thio]acetic acid;
- 30 (4-{{(2R)-2-[(1E,3R)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}butoxy)acetic acid;
- 3-[(3-{{(2R)-2-[(1E,3R)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}propyl)thio]propanoic acid;

- 7-[(2*R*)-2-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-3-methyl-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl]heptanoic acid;
- 7-[(2*R*)-2-[(1*E*,3*S*)-4,4-difluoro-3-hydroxy-3-methyl-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl]heptanoic acid;
- 5 7-[(2*R*)-2-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-(2-naphthyl)but-1-enyl]-6-oxopiperidin-1-yl]heptanoic acid;
- (6*R*)-6-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-3-methyl-4-phenylbut-1-enyl]-1-[6-(1*H*-tetrazol-5-yl)hexyl]piperidin-2-one;
- (6*R*)-6-[(1*E*,3*S*)-4,4-difluoro-3-hydroxy-3-methyl-4-phenylbut-1-enyl]-1-[6-(1*H*-tetrazol-5-yl)hexyl]piperidin-2-one;
- 10 7-[(2*R*)-2-[(1*E*,3*R*)-4-(1-benzothien-2-yl)-4,4-difluoro-3-hydroxybut-1-enyl]-6-oxopiperidin-1-yl]heptanoic acid;
- (6*R*)-6-[(3*R*)-4,4-difluoro-3-hydroxy-3-methyl-4-phenylbutyl]-1-[6-(1*H*-tetrazol-5-yl)hexyl]piperidin-2-one;
- 15 (6*R*)-6-[(3*S*)-4,4-difluoro-3-hydroxy-3-methyl-4-phenylbutyl]-1-[6-(1*H*-tetrazol-5-yl)hexyl]piperidin-2-one;
- 7-[(2*R*)-2-[(1*E*,3*R*)-4-(1-benzofuran-2-yl)-4,4-difluoro-3-hydroxybut-1-enyl]-6-oxopiperidin-1-yl]heptanoic acid;
- 7-[(2*R*)-2-[(1*E*,3*R*)-4-(3-chlorophenyl)-4,4-difluoro-3-hydroxybut-1-enyl]-6-oxopiperidin-1-yl]heptanoic acid;
- 20 7-[(2*R*)-2-[(1*E*,3*R*)-4-(3-chlorophenyl)-4,4-difluoro-3-hydroxybut-1-enyl]-6-oxopiperidin-1-yl]heptanoic acid;
- 7-[(2*R*)-2-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-(3-methoxyphenyl)but-1-enyl]-6-oxopiperidin-1-yl]heptanoic acid;
- 25 6-[(1*E*)-(3*R*)-3-hydroxy-4-phenyl-but-1-enyl]-1-[6-(1*H*-tetrazol-5-yl)-hexyl]-piperidin-2-one;
- 7-[[1*E*)-(2*R*)-2-(3*S*)-3-hydroxy-4-phenyl-but-1-enyl]-6-oxo-piperdin-1-yl]heptanoic acid;
- isopropyl 7-[[1*E*)-(2*R*)-2-(3*S*)-3-hydroxy-4-phenyl-but-1-enyl]-6-oxo-piperdin-1-yl]heptanoate;
- isopropyl 7-[(2*R*)-2-[(3*R*)-3-hydroxy-4-phenyl-butyl]-6-oxo-piperdin-1-yl]heptanoate;
- 30 7-[[2*R*)-2-(3*R*)-3-hydroxy-4-phenyl-butyl]-6-oxo-piperdin-1-yl]heptanoic acid;
- methyl 5-[3-[(2*R*)-2-[(1*E*)-(3*S*)-3-hydroxy-4-phenyl-but-1-enyl]-6-oxo-piperidin-1-yl]-propyl]-thiophene-2-carboxylate;
- 5-[3-[(2*R*)-2-[(1*E*)-(3*S*)-3-hydroxy-4-phenyl-but-1-enyl]-6-oxo-

- piperidin-1-yl]-propyl}-thiophene-2-carboxylic acid;
 5- $\{3-[(2R)-2-((3S) \text{ 3-hydroxy-4-phenyl-butyl})-6\text{-oxo-piperidin-1-yl}]-$
 propyl}-thiophene-2-carboxylic acid;
 isopropyl 5- $\{3-[(2R)-2-((1E)-(3S) \text{ 3-hydroxy-4-phenyl-but-1-enyl})-6\text{-oxo-piperidin-1-yl}]-$
 5 propyl}-thiophene-2-carboxylate;
 isopropyl 5- $\{3-[(2R)-2-((3S) \text{ 3-hydroxy-4-phenyl-butyl})-6\text{-oxo-piperidin-1-yl}]-$
 propyl}-thiophene-2-carboxylate;
 6- $[(3R)-3\text{-hydroxy-4-phenyl-butyl}]-1-[6-(1H\text{-tetrazol-5-yl})\text{-hexyl}]\text{-piperidin-2-one};$
 isopropyl 7- $\{(2R)-2-[(1E)-4,4\text{-difluoro-3-oxo-4-phenylbut-1-enyl}]-6\text{-oxopiperidin-1-yl}\}$
 10 yl}heptanoate;
 7- $\{(2R)-2-[(3R)-4-(3\text{-bromophenyl})-4,4\text{-difluoro-3-hydroxybutyl}]-6\text{-oxopiperidin-1-yl}\}$
 heptanoic acid;
 methyl 5- $\{3-[(2R)-2-((1E)-(3S) \text{ 3-hydroxy-4-phenyl-but-1-enyl})-6\text{-oxo-piperidin-1-yl}]-$
 propyl}-thiophene-2-carboxylate;
 15 5- $\{3-[(2R)-2-((3S) \text{ 3-hydroxy-4-phenyl-butyl})-6\text{-oxo-piperidin-1-yl}]-$
 propyl}-thiophene-2-carboxylic acid;
 isopropyl 5- $\{3-[(2R)-2-((3S) \text{ 3-hydroxy-4-phenyl-butyl})-6\text{-oxo-piperidin-1-yl}]-$
 propyl}-thiophene-2-carboxylate;
 6- $[(3R)-3\text{-hydroxy-4-phenyl-butyl}]-1-[6-(1H\text{-tetrazol-5-yl})\text{-hexyl}]\text{-piperidin-2-one};$
 20 isopropyl (5Z)-7- $\{(2R)-2-[(1E,3R)-4,4\text{-difluoro-3-hydroxy-4-phenylbut-1-en-1-yl}]-6\text{-oxopiperidin-1-yl}\}$
 hept-5-enoate;
 (5Z)-7- $\{(2R)-2-[(1E,3R)-4,4\text{-difluoro-3-hydroxy-4-phenylbut-1-en-1-yl}]-6\text{-oxopiperidin-1-yl}\}$
 hept-5-enoic acid;
 isopropyl-7- $\{(4R)-4-[(1E)-4,4\text{-difluoro-3-hydroxy-4-phenylbut-1-en-yl}]-2\text{-oxo-1,3-oxanzinan-3-yl}\}$
 25 yl}heptanoate;
 7- $\{(4R)-4-[(1E)-4,4\text{-difluoro-3-hydroxy-4-phenylbut-1-en-yl}]-2\text{-oxo-1,3-oxanzinan-3-yl}\}$
 heptanoic acid;
 or a pharmaceutically acceptable salt, enantiomer, diastereomer, prodrug or mixture thereof.
- 30 7. A compound according to claim 6 which is:
 7- $\{(2R)-2-[(1E,3R)-4,4\text{-difluoro-3-hydroxy-4-phenylbut-1-enyl}]-6\text{-oxopiperidin-1-yl}\}$
 heptanoic acid;
 7- $\{(4R)-4-[(1E,3R)-4,4\text{-difluoro-3-hydroxy-4-phenylbut-1-enyl}]-2\text{-oxo-1,3-oxazinan-3-yl}\}$
 heptanoic acid;

isopropyl 7-{(2*R*)-2-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}heptanoate;

isopropyl 7-{(4*R*)-4-[(1*E*,3*R*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-enyl]-2-oxo-1,3-oxazinan-3-yl}heptanoate;

5 isopropyl 7-{(2*R*)-2-[(1*E*)-4,4-difluoro-3-oxo-4-phenylbut-1-enyl]-6-oxopiperidin-1-yl}heptanoate;

7-{(2*R*)-2-[(3*R*)-4-(3-bromophenyl)-4,4-difluoro-3-hydroxybutyl]-6-oxopiperidin-1-yl}heptanoic acid;

10 isopropyl-7-{(4*R*)-4-[(1*E*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-en-yl]-2-oxo-1,3-oxanzinan-3-yl}heptanoate;

7-{(4*R*)-4-[(1*E*)-4,4-difluoro-3-hydroxy-4-phenylbut-1-en-yl]-2-oxo-1,3-oxanzinan-3-yl}heptanoic acid;

or a pharmaceutically acceptable salt, enantiomer, diastereomer, prodrug or mixture thereof.

15 8. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a compound of formula I, as recited in claim 1.

9. A method for treating ocular hypertension or glaucoma comprising administration to a patient in need of such treatment a therapeutically effective amount of a
20 compound of claim 1, said compound administered in a topical formulation as a solution or suspension.

10. The method according to claim 9 wherein one or more active ingredients belonging to the group consisting of: β -adrenergic blocking agent, parasympatho-mimetic agent,
25 sympathomimetic agent, carbonic anhydrase inhibitor, Maxi-K channel blocker, and a prostaglandin, hypotensive lipid, neuroprotectant, and 5-HT₂ receptor agonist is added to the topical formulation.

11. The method according to claim 10 wherein the β -adrenergic blocking agent is timolol, betaxolol, levobetaxolol, carteolol, or levobunolol; the parasympathomimetic agent is pilocarpine; the sympathomimetic agent is epinephrine, brimonidine, iopidine, clonidine, or para-aminoclonidine, the carbonic anhydrase inhibitor is dorzolamide, acetazolamide, metazolamide or brinzolamide; COSOPT®, the Maxi-K is Penitrem A, paspalicine, charybdotoxin, iberiotoxin, Paxicillan, Aflitram, Verrocugen, 1-(1-isobutyl-6-methoxy-1H-

indazol-3-yl)-2-methylpropan-1-one; 1-[1-(2,2-dimethylpropyl)-6-methoxy-1H-indazol-3-yl]-2-methylpropan-1-one; 1-[1-(cyclohexylmethyl)-6-methoxy-1H-indazol-3-yl]-2-methylpropan-1-one; 1-(1-hexyl-6-methoxy-1H-indazol-3-yl)-2-methylpropan-1-one; 1-[1-(2-ethylhexyl)-6-methoxy-1H-indazol-3-yl]-2-methylpropan-1-one; 1-(3-isobutyryl-6-methoxy-1H-indazol-1-yl)-2-methylpropan-1-one; 1-(3-isobutyryl-6-methoxy-1H-indazol-1-yl)-3,3-dimethylbutan-2-one; 1-(3-cyclopentylcarbonyl)-6-methoxy-1H-indazol-1-yl)-3,3-dimethylbutan-2-one; 1-(3,3-dimethyl-2-oxobutyl)-6-methoxy-1H-indazole-3-carboxylic acid; and 1-[3-(3-hydroxypropanoyl)-6-methoxy-1H-indazol-1-yl]-3,3-dimethylbutan-2-one, the prostaglandin is latanoprost, travaprost, unoprostone, rescula, or S1033, the hypotensive lipid is lumigan, the neuroprotectant is eliprodil, R-eliprodil or memantine; and the 5-HT₂ receptor agonist is 1-(2-aminopropyl)-3-methyl-1H-indazol-6-ol fumarate or 2-(3-chloro-6-methoxy-indazol-1-yl)-1-methyl-ethylamine.

12. A method for treating macular edema or macular degeneration, treating dry eye, increasing retinal and optic nerve head blood velocity, increasing retinal and optic nerve oxygen tension or providing a neuroprotection, comprising administration to a patient in need of such treatment a pharmaceutically effective amount of a compound of a compound as recited in claim 1.

13. The method according to claim 9 in which the topical formulation optionally contains xanthan gum or gellan gum.

14. A method for stimulating bone formation, treating or reducing the risk of contracting a disease state or condition related to abnormal bone resorption, in a mammal in need thereof comprising administering to said mammal a therapeutically effective amount of a compound as recited in claim 1.

15. The method according to claim 14 wherein said disease state or condition is selected from the group consisting of osteoporosis, glucocorticoid induced osteoporosis, Paget's disease, abnormally increased bone turnover, periodontal disease, tooth loss, bone fractures, rheumatoid arthritis, periprosthetic osteolysis, osteogenesis imperfecta, metastatic bone disease, hypercalcemia of malignancy, and multiple myeloma.

16. The method according to claim 14 wherein a bisphosphonate active selected from the group consisting of alendronate, cimadronate, clodronate, tiludronate,

etidronate, ibandronate, neridronate, olpandronate, risedronate, piridronate, pamidronate, zolendronate, pharmaceutically acceptable salts thereof, and mixtures thereof is optionally added.

- 5 17. The method according to Claim 16 comprising administering another agent selected from an organic bisphosphonate; a cathepsin K inhibitor, an estrogen, an estrogen receptor modulator, an androgen receptor modulator, an inhibitor of osteoclast proton ATPase, an inhibitor of HMG-CoA reductase, an integrin receptor antagonist, an osteoblast anabolic agent, calcitonin, vitamin D, a synthetic Vitamin D analogue, or a pharmaceutically acceptable salt or mixture thereof.

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